

LINKS: *Minority Research & Training*

Supporting Senior Independence — National Institute on Aging's Pepper Centers

The Claude D. Pepper Older Americans Independence Centers (OAICs, also sometimes referred to as Pepper Centers) were established over 20 years ago to “increase scientific knowledge that will lead to better ways to maintain or restore independence to older persons.” The centers honor the late Claude Denson Pepper, who as a United States Senator (1936-1951) and United States Representative (1963-1989) from Florida, advocated for legislation that would help improve and preserve the quality of life for Americans with advancing age.

Today, the National Institute on Aging (NIA) supports 12 Pepper Centers across the United States. Each has its own particular research interests—some look at factors that contribute to disability, some study specific age-related conditions that lead to or increase risk for loss of function, and others design and test interventions that may prevent or delay disability.

Despite their unique identities and themes for investigation, the OAICs each have a similar structure with specific overarching goals. According to Kevin P. High, M.D., M.S., principal investigator of the OAIC Coordinating Center at Wake Forest University, “Each center is responsible for stimulating the translation between basic and clinical research. As part of this, the centers develop and test innovative and interdisciplinary approaches to address the needs of older people. This includes incorporating emerging technologies into

their research design. In addition, the OAICs are to be a resource to other institutions. For example, the University of Texas Medical Branch OAIC is a critical component of the only World Health Organization Collaborating Center on Aging and Health in North America.”

In addition, High says that all the OAICs support young researchers and have successfully involved many young investigators from underrepresented populations. “Part of the goal of each OAIC is to mentor new researchers, providing them with career development opportunities,” he points out.

Several trainees along with more established research staff have a special interest in conducting studies focused on disability among minority populations. For example, members of the University of California at Los Angeles (UCLA) OAIC also coordinate the six centers known as Resource Centers for Minority Aging Research (RCMAR) through the RCMAR National Coordinating Center at UCLA. The CARRIAGE

(continued on page 8)



IN THIS *Issue*

- *NIA's Research Fellowship Program* (page 2)
- *Hospice – Not a Black and White Decision* (page 5)
- *Evans Named Acting Scientific Director* (page 6)
- *NIA's E-Zines – SOAR and Connections* (page 7)
- *NIA: Recruiting for Diversity* (page 9)

Fostering New Talent—NIA's Research Fellowship Program

Each year a handful of new Intramural Research Training Award fellows are selected from a large applicant pool to join the NIA research community. Some hope that the Institute will be a place to build their careers. Others view the NIA fellowship as an valuable learning experience before moving on to additional schooling. NIA's fellows may have different career aspirations and personal histories, but they share a love of science and an interest in the health issues facing older people. Learn about how you can apply to be an NIA research fellow by visiting www.grc.nia.nih.gov/branches/osd/factbook.htm.

Ana DePina, Ph.D.



Serendipity is how Ana DePina, Ph.D., characterizes her fellowship at NIA. She did not originally set out to be a researcher or even to work at NIA; however, a series of “insurmountable

opportunities” coupled with inspiring mentors led her to where she is today.

DePina was born in the Cape Verde Islands and moved to Boston when she was 10 years old. In middle school her interest in science was sparked by a particularly engaging teacher. “He made the subject fun by encouraging students to submit science questions anonymously—you can imagine what we came up with as teenagers—and he would answer them during class,” recalls DePina.

While at Emmanuel College in Boston, DePina studied biology with the intention of applying to medical school. But, at the end of her junior year DePina received the chance to conduct laboratory research

through a National Science Foundation-sponsored summer research program at Wellesley College. The summer program changed her career path.

“I enjoyed all aspects of doing research in a lab: formulating a hypothesis, conducting experiments to test it, and ultimately analyzing the results to determine the validity of the hypothesis. Plus, I had a wonderful mentor in the program who helped me to continue working on the project during my senior year of college and then full time for a year after college. These experiences strengthened my decision to pursue a graduate degree in biology at Dartmouth College,” says DePina.

After receiving her Ph.D. from Dartmouth, DePina spent two years conducting biomedical research at the Department of Cardiology at Brigham and Women's Hospital in Boston. Then serendipity, by way of her scientist-husband, stepped in. DePina's spouse, Eric Norman, Ph.D., had the opportunity to work with NIA scientist, Mark Mattson, Ph.D., in the Intramural Research Program's (IRP) Laboratory of Neurosciences in Baltimore, Maryland. DePina saw the move from Boston to Baltimore as a chance to develop her own research skills. She was accepted into NIA's postdoctoral fellowship program to pursue her interest in studying genetic factors that influence longevity in *C. elegans* under the direction of Cathy Wolkow, Ph.D. in the IRP's Invertebrate Molecular Genetics Unit.

DePina studies the disposable soma theory of aging. “The theory suggests that the body has a finite pool of resources, which, if used solely to maintain and repair the body, would lead to longer lifespan; however, if some of that resource pool is diverted towards reproduction and away from somatic maintenance, a shorter lifespan is predicted,”

explains DePina. Her research seeks to uncover the molecular basis for this possible trade-off between longevity and reproduction in *C. elegans*.

Now in her fifth year as a fellow, DePina still is amazed by the breadth and scope of scientific research she is exposed to at NIA. “I feel very fortunate to have had this training experience. The best part for me is having a supportive and positive lab environment, as well as a mentor who is extremely generous of her time and advice in all aspects of my work,” says DePina.



Andrew Levette

Andrew Levette was inspired to become a doctor at an early age: “My mom and dad are both physicians, so I guess I had a strong inclination toward medicine

since birth. One of my most vivid memories from childhood is accompanying my mom—a primary care doctor—to the hospital every weekend, shadowing her during her rounds. I was struck by the impact she had on her patients’ lives.”

In addition to being attracted to the humanitarian aspect of medicine, Levette is drawn to the science and mechanics of how the body works. This interest was strengthened at a formative age when he had a difficult to diagnose health issue. “In high school, I was faced with possibly having an autoimmune disease. The overall lack of definitive answers and the mystery of the etiology of my symptoms spurred my interest in medical research and remains to this day,” shares Levette.

As an undergraduate with an eye on becoming a physician, Levette attended Stanford University in California, studying human biology. But, before starting medical school, he thought a real-world research

experience “would help me to be a better doctor and to better understand the complex process of bench to bedside.” Levette learned about research opportunities at NIA through his program at Stanford.

Why aging research? Levette is clear, “In simple terms, aging is the one thing that we all do on a daily basis. The study of aging is something everyone can relate to. It is the means to finding ways to prolong years of life while maintaining maximum function and good health.”

Levette found his perfect fit at the NIA IRP’s Laboratory of Experimental Gerontology in the Aging, Metabolism, and Nutrition Unit led by Rafael de Cabo, Ph.D. “The lab is a microcosm of what I believe to be the purpose of scientific research, that is the attempt to find some form of pharmacological, genetic, or dietary intervention that delays disease development and increases lifespan,” says Levette. Since graduating college in June 2009 and coming to NIA, he has been studying models for dietary restriction (DR), focusing on compounds that may mimic the positive effects of DR in mice.

“I am enjoying this amazing fellowship. Along with the actual work, the most enriching facet of this experience is learning how an idea or hypothesis becomes a research project. I know that my time at NIA will be invaluable as I move towards my ultimate goal of becoming a physician,” says Levette.



Rhonda McClure

Rhonda McClure may be on the fast track to a career in research, but when she matriculated at University of North Carolina at Pembroke at age 16, she had

other plans. “I was always interested in science and thought that medicine was the only career

choice I had in this field,” explains McClure.

It was during her second year at the university when her eyes were opened to the world of research. “I was working in a lab to make my medical school application look better. The more I got into the research, the more I realized how much I loved it. I couldn’t believe that people were able to choose research as a career,” recalls McClure. Around this time, National Institutes of Health (NIH) scientist Yolanda Mock Hawkins, Ph.D. came to talk to students about intramural research training opportunities at NIH. Mock Hawkins helped McClure identify what Institute might have research interests to best match her own, which led McClure to NIA. McClure was drawn to aging research because of its relevance to everyone. “We all age, so it is important for us to know how, why, and what we can learn about the process,” says McClure.

After graduating from college in only three years, McClure applied and was selected for the 2009 NIH Summer Internship Program. She worked in NIA’s Laboratory of Molecular Gerontology, under the mentorship of Patricia Gearhart, Ph.D. and Robert Maul, Ph.D. McClure remembers, “As part of the summer program, I participated in the National Institute on Aging-National Institute on Drug Abuse Poster Day. I received one of the three ‘Barbara A. Hughes Award of Excellence’ for my poster entitled, *Effects of multiple B cell stimulators on class switch recombination and AIDS expression*. I realized during my summer experience that I wanted to stay on at NIA as a Postbaccalaureate fellow. Fortunately, Dr. Gearhart received an NIH Intramural AIDS Research Fellowship to support my work in her lab.”

McClure studies a protein called AID which helps instruct the body on how to rid itself of viruses or bacteria. Older people tend to have lower levels of this protein, which may help explain why they have less resistance to certain diseases. McClure looks at how

the AID protein is regulated. She stimulates different receptors on B-cells with a virus and observes how they differentially activate AID.

In addition to the valuable research experience, the best part of working at NIA is the connections that McClure has been able to make. “Through my mentor, Dr. Gearhart, I’ve met with leading researchers from major universities including Johns Hopkins and Yale,” shares McClure. “For so many reasons, pursuing this fellowship is simply the best decision I have ever made.”

David Wilson, Ph.D.



Butterflies—that is what David Wilson, Ph.D., a member of the Diné (Navajo) Tribe says was his motivation for pursuing a career in science.

After growing up in the Four Corners area of the southwest, Wilson attended college at The University of Arizona in Tucson where he studied mechanical engineering. It was during a summer break “chasing butterflies” at the Rocky Mountain Biological laboratory in Gothic, Colorado, when he had an epiphany about this career direction. “I wanted to study life science. Two weeks into the 6-week research program I had my paperwork completed to change my major to molecular and cellular biology,” recalls Wilson.

Once he finished his undergraduate program, Wilson worked in the private sector for several years running an environmental lab. However, he came to realize that working day-to-day in a “processing” lab was not for him so he decided to go to graduate school at Arizona State University.

After earning his Ph.D. in molecular immunology, Wilson became interested in the immune system’s role in healthy aging, which made him a good fit for NIA. Wilson credits

(continued on page 9)

Hospice—Not a Black and White Decision

Hospice care, for many people, is intimately tied to this country's growing discussion about end-of-life care. Understanding different communities' knowledge and beliefs about end-of-life care, as well as the factors that influence their decision-making, are important areas of research. The burgeoning older population adds to the urgency of this work. A research study published in the *Journal of Palliative Medicine* (October 2009) demonstrates a difference between African American and white participants' exposure to information about hospice and discusses how this exposure might influence their views—and perhaps use—of this type of palliative care.

The survey study, which was partially funded by NIA's Claude D. Pepper Older Americans Independence Center at Duke University and led by Kimberly S. Johnson, M.D., M.H.S., found that African American participants reported less exposure to information about

hospice—19 percent said they'd never heard of it—compared to their white counterparts (4 percent). In addition, while over 71 percent of white participants said they had heard a lot about hospice, the same degree of familiarity was true for only slightly more than 47 percent of African American participants.

"These findings are not entirely surprising," explains Johnson. "African Americans have been historically underrepresented in hospice, and previous studies have similarly discovered that African Americans know less about hospice than whites. However, we were surprised to find that such a large proportion of African

Americans in our sample (almost one-fifth) had not even heard of hospice given how common hospice care is throughout the United States."

Investigators found that participants who were more familiar with hospice had more positive beliefs and attitudes about some aspects of hospice care. For example, if facing death, both African Americans and whites who reported greater exposure to information about hospice were more likely to agree that they would want hospice care. Researchers also identified differences between the views of African American and white participants regardless of participants' familiarity with hospice. With

increasing exposure to information about hospice, African American participants were more likely to *disagree* with the statement, "I wouldn't need hospice if I were dying because my family would take care of me."



Among white participants, responses to this statement were not related to the degree of exposure to information about hospice.

White participants who reported greater exposure to information about hospice were more likely to *disagree* with the statement, "hospice care means you get no treatment," compared to African American participants with a similar exposure. The researchers think a cultural difference might be at the root of a common misconception among African American participants that people in hospice do not receive any treatment. Participants may define treatment as a cure for a disease rather than comfort-care. The quality of formal hospice information that

(continued on page 6)



Michele K. Evans, M.D., Named Acting Scientific Director of NIA

Michele K. Evans, M.D., Deputy Scientific Director, has been named NIA's Acting Scientific Director.

"I am honored to be selected for this position. I look forward to working with our director, Dr. Richard Hodes, to oversee NIA's intramural research, while maintaining my own investigations of aging," says Evans.

Evans is a board certified internist and a medical oncologist. As chief of NIA's DNA Repair Unit (part of the IRP's Laboratory of Cellular and Molecular Biology), Evans's research focuses on the relationship between DNA damage and cancer. She also studies the relationship between DNA repair and cellular senescence, which is when the cell turns itself off after progressive deterioration during mitosis.

"Understanding the role of DNA repair in cellular senescence and tumorigenesis may help us to develop a clinical tool to diagnose and treat cancer and age-related disease and

disability," explains Evans.

Evans takes a special interest in the health problems facing underrepresented populations. She is a principal investigator of the Healthy Aging in Neighborhoods of Diversity across the Life Span or HANDLS study. HANDLS researchers investigate the differences in rates and risks for diseases and other conditions associated with aging among approximately 4,000 African American and White participants of low and higher socioeconomic status, mostly living in or around Baltimore, Maryland. See "HANDLS—Bringing Health Disparity Research to the Neighborhood" in the fall 2009 issue of *Links* (www.nia.nih.gov/NewsAndEvents/Links) or visit the HANDLS website, <http://handls.nih.gov>, for more information about the study.

Evans took on her new role as Acting Scientific Director on March 1, 2010, when Dan Longo, M.D., retired. During his 15 years as Scientific Director, Longo led the IRP to become an example of excellence in biomedical research and most specifically in research on aging and aging-related processes.

Hospice (continued from page 5)

African American participants received in the past along with what they heard from families who used hospice may also contribute to their misapprehension.

"This research supports the need for educational programs especially designed for underrepresented populations that will dispel myths about hospice and provide them with the information necessary to make informed choices about end-of-life care," concludes Johnson.

Johnson and her team continue to explore how culture influences end-of-

life decisions, including the choice to use hospice. She plans to use findings from her research to develop educational programs that will address knowledge gaps and disparities in this final stage of care.

If you are looking for general information about end-of-life care, NIA has a publication that can help—*End of Life: Helping With Comfort and Care*, www.nia.nih.gov/HealthInformation/Publications/endoflife/

NIA's E-Zines—SOAR and Connections

Searching for NIA's recent research findings or new information and activities related to Alzheimer's disease? NIA's two e-zines (electronic magazines) have what you are looking for:

- *SOAR (Spotlight on Aging Research)* reports “news and notes” from the Institute for researchers, the public, and press. Each issue features “Stories of Discovery and Innovation” with a detailed look at areas of NIA research. Calorie restriction, the Baltimore Longitudinal Study of Aging, and the SardiNIA genetics study were the focus of this section in previous issues. *SOAR* also includes highlights of the latest NIA research findings, a conversation-style interview with a member of NIA's leadership (past issues have profiled Deputy director Marie A. Bernard, M.D., and Director of NIA's Division of Extramural Activities, Robin Barr, D. Phil.), funding information, and a list of NIA's newest publications. You can find *SOAR* online at <http://www.nia.nih.gov/NewsAndEvents/SOAR>.



CONNECTIONS

News from the Alzheimer's Disease Education and Referral (ADEAR) Center

- *Connections* is a twice yearly news and research update from NIA's ADEAR (Alzheimer's Disease Education and Referral) Center. Intended for researchers, caregivers, and anyone interested in learning more about Alzheimer's and age-related cognitive change, *Connections* includes features on current research, highlights of Alzheimer's-related events, a sampling of new materials in the ADEAR library, Alzheimer's clinical trial information, and more. A special section for people looking after someone with Alzheimer's—the “Caregivers Corner”—has covered such topics as “Helping Children Understand Alzheimer's Disease” and “When Financial Skills Decline: Protecting People with Alzheimer's Disease.” In 2009, *Connections* became an online e-zine, ceasing its print production. Current and archived issues of *Connections* are online at www.nia.nih.gov/Alzheimers/ResearchInformation/Newsletter/

LET US HEAR FROM YOU!

We are always interested in hearing from minority program faculty, alumni, and students. Please contact us and let us know where you are and what you are doing.

Work Group on Minority Aging
Office of the Director
National Institute on Aging
Building 31, Room 5C35
Bethesda, MD 20892-2292
Phone: 301-496-0765

Study (Carolinas Region Interaction of Aging, Genes, and Environment), conducted at Duke's OAIC, is investigating the possible genetic biomarkers associated with osteoarthritis and early-onset heart disease in a large African American family (over 350 study participants). At Yale University's OAIC, scientists conducted a qualitative research study using focus groups with African American and Latino seniors to determine what these underrepresented seniors perceive as barriers to participating in age-related research. The University of Florida OAIC studied how physical function (including walking speed and knee extension strength) can change as a result of weight loss and exercise in obese older African-American women compared to Caucasian women.

Along with conducting their own studies, Pepper Centers often collaborate with each other and other types of centers in larger projects. In 2009, four OAICs along with four other non-OAIC institutions received a \$29.5 million grant through the American Recovery and Reinvestment Act for the Lifestyle Interventions and Independence for Elders (LIFE) study. LIFE will test a physical activity-based intervention to prevent mobility disability among older people who are at risk of losing their ability to walk and to live independently in the community. Researchers will evaluate whether the intervention reduces the risk of disability and fall-related injuries and improves cognitive function, comparing it to a health education approach. More information about the LIFE study is available at: www.thelifestudy.org "Understanding and reducing the risk of disability for seniors is an important part of the NIA's mission. The Pepper Centers do outstanding work that we hope will lead to interventions for maintaining functional independence well into old age," said Evan Hadley, M.D., director of NIA's Division

of Geriatrics and Clinical Gerontology that funds the centers.

For general information about the OAICs including a map of their locations, please visit www.peppercenter.org.

For information about a recent Centers for Disease Control and Prevention report on the difference in the prevalence and impact of arthritis among racial groups, please visit www.cdc.gov/nccdphp/arthritis/.

Current Claude D. Pepper Older Americans Independence Centers

Boston University,
www.bostonpeppercenter.org

Duke University,
www.geri.duke.edu/oaic/

Johns Hopkins University,
www.jhsph.edu/agingandhealth/oaic/

Mt. Sinai University
www.mountsinai.org/*

University of California, Los Angeles,
www.geronet.med.ucla.edu/centers/pepper/

University of Florida,
www.aging.ufl.edu/pepper.php

University of Maryland,
<http://peppercenter.umaryland.edu/>

University of Michigan,
www.med.umich.edu/geriatrics/research/ClaudePepper/

University of Pittsburgh,
www.pepper.pitt.edu

University of Texas Medical Branch,
www.utmb.edu/scoa/Research/Pepper/

Wake Forest University
(coordinating center),
www.wfubmc.edu/pepper/

Yale University,
<http://geriatrics.yale.edu/research/>

*Does not yet have a webpage for its OAIC

his actual decision to apply for a postdoctoral fellowship at NIA to his mentor, Sebastian Fugmann, Ph.D., “During my graduate career I developed an appreciation for Fugmann’s experimental approach and style of writing. I knew that under his guidance I could develop these skills that are essential for success as an independent investigator,” explains Wilson.

Wilson’s research currently focuses on how a protein called SIRT6 turns on and off various activities in a cell. His team is also trying to identify proteins that interact with SIRT6 and if these interactions affect the cell’s function. Along with this area of investigation, Wilson has an interest in the evolution of our immune systems. “Where did our bodies acquire the potential to recognize and fight enormous numbers

of infections and diseases? Why does our immune system falter as we age? We are trying to answer some of these questions by studying the immune systems of primitive animals that live a very long time and comparing the systems to one another,” says Wilson.

Wilson has been with the NIA IRP over 3 years. During this time he has gone from being a fellow to a biologist in the Molecular Immunology Unit of the Laboratory of Cellular and Molecular Biology. “Moving to Baltimore to work at NIA was the best career decision of my life. We have so much talent at the NIA that it would be very difficult *not* to learn something new each and every day,” says Wilson.

NIA: Recruiting for Diversity

Having a diverse scientific staff is an important component in building NIA’s research community. NIA works with a variety of institutions and organizations, such as universities with a large minority student population (including Howard University, Oklahoma State University, University of New Mexico, University of North Dakota, and Texas A&M), the disABLEDperson Inc. organization, and the American Association for Affirmative Action, to spread the word about job opportunities. If you are interested in learning about current open positions at NIA, please visit www.usajobs.gov.

NIA’s Health Disparities Resource Persons Network

NIA’s Minority Workgroup encourages investigators who have experience working with diverse populations and older adults to register to be an expert resource for the Health Disparities Resource Persons Network. The network helps connect early career scientists with investigators who have significant experience in aging research, minority health, health disparities, and minority recruitment and retention. If you are interested in joining or using the resources available on the network, please visit: www.nia.nih.gov/ResearchInformation/HDToolbox.

LINKS: MINORITY RESEARCH & TRAINING

Work Group on Minority Aging
Office of the Director
National Institutes of Health
National Institute on Aging
Building 31, Room 5G35
Bethesda, MD 20892-2292

First Class Mail
Postage & Fees Paid
National Institute on
Aging
Permit No. G-803

OFFICIAL BUSINESS

Penalty for private use, \$300.

Remember: July 23 Deadline for Applications to Grants Technical Assistance Workshop

On November 18-19, 2010, NIA will hold its two-day interactive forum, the Grants Technical Assistance Workshop for Minority and Emerging Scientists and Students. During the workshop, NIA staff and associated faculty members will present information and provide technical assistance on applying for NIA grants. Participants in the workshop, depending on career stage, will have an opportunity to make podium presentations of current or planned research projects and receive feedback from peers and NIA staff. The workshop will be held immediately before the 2010 Annual Scientific Meeting of Gerontological Society of America, in New Orleans, LA. Participation is by competitive application.

NIA encourages applications from members of groups underrepresented in aging research and investigators committed to research careers related to minority aging issues. Applicants should be pre- and post-doctoral students or recent recipients of Ph.D., M.D., or related doctoral degrees; new to the NIH application process and/or embarking on an independent program of research; investigators with less than 5 years of research experience; and U.S. citizens, non-citizen nationals or permanent residents.

Applications are due by Friday, July 23. For information and application forms, please contact Andrea Griffin-Mann at 301-496-0765 or griffinmanna@mail.nih.gov.

Links: Minority Research and Training newsletter is published twice a year by the Work Group on Minority Aging, Office of the Director, National Institute on Aging, Building 31, Room 5C35, Bethesda, MD 20892. Thanks to Writer/Editor Megan Homer. This is an administrative document.